

Collaborating to Compete in the New Economy

Addendum I

Key Policy Issues for Nine Industry Clusters

Prepared by the California Economic Strategy Panel February 1996

INTRODUCTION

The California Economic Strategy Panel, working with the consulting firms of Applied Development Economics and Collaborative Economics, respectively, developed a regionally-oriented, two-track process which examined:

- Regional patterns of employment and businesses at the local level between 1991 and 1994; and,
- How selected regional industry clusters are organized and what factors facilitate their growth and expansion.

Considering the size, diversity and complexity of California, the Panel identified six regions to implement the planning process. In each region, host organizations and local partners came together to select industry clusters to examine in the first planning cycle.

The host organizations and partners considered different criteria, such as the largest or fastest growing industry clusters, to select representative clusters for the initial cycle. Industry clusters participating reflected those that are 1) established and expanding; 2) established and in transition; and, 3) emerging. Both quantitative and qualitative methods were used to understand each cluster and how key economic foundations provided constraints and opportunities for the growth and expansion of each cluster. The quantitative analysis examined:

- the components, including key producers/exporters, suppliers, human resources, investors, institutions such as government, education, research laboratories and associations and infrastructure that make up the cluster by SIC Codes;
- size and growth of the cluster by employment and payroll;
- evolution of the cluster;
- relationships and networks;
- markets;
- opportunities; and, most importantly,
- requirements for future growth of the cluster.

In support of the quantitative analysis, the qualitative analysis applied one-on-one interviews with senior-level representatives of each industry cluster. Host organizations and local partners identified and introduced 15-20 key regional leaders for each cluster, who were posed interview questions, which included the following standard set:

- **Workforce Preparation and Renewal**

What are the critical skills required by the cluster?

How prepared is the workforce today in terms of those critical skills?<

What should be done to make K-12 more responsive to the cluster?

What should be done to make technical training more responsive to the cluster?

What should be done to make higher education more responsive to the cluster?

What is the effectiveness of state training programs ?

What are the top three priorities for enhancing the workforce for this cluster?

- **Technology Development and Deployment**

What are the critical technology needs of the cluster?

How adequate is the technology base of this cluster?

What should be done to promote basic research for this cluster?

What should be done to promote applied technology for this cluster?

What should be done to improve manufacturing techniques for this cluster?

What should be done to improve business practices for this cluster?

What should be done to promote commercialization for this cluster?

What are the top three priorities for promoting technology in this cluster?

- **Capital Access and Availability**

What are the critical capital needs of the cluster?

How adequate is capital financing for this cluster?

What should be done to increase start-up capital for this cluster?

What should be done to increase expansion capital for this cluster?

What are the top three priorities for increasing capital availability for this cluster?

- **Transportation Infrastructure**

What are the critical transportation infrastructure needs of the cluster?

How adequate is transportation infrastructure for this cluster?

What should be done to enhance regional transportation infrastructure for this cluster?

What should be done to enhance globally linking transportation infrastructure (e.g., airports and ports) for this cluster?

What are the top three priorities for enhancing transportation infrastructure for this cluster?

- **Information Infrastructure**

What are the critical information infrastructure needs of the cluster?

How adequate is the information infrastructure for this cluster?

What should be done to stimulate regional electronic networks for this cluster?

What should be done to stimulate global electronic networks for this cluster?

What are the top three priorities for enhancing information infrastructure for this cluster?

- **Tax and Fiscal Policy**

What are the critical tax and fiscal policy issues facing this cluster?

How competitive is the tax structure compared to other states for this cluster?

Are tax incentives necessary for this cluster?

Is tax equity necessary for this cluster and, if so, what should it be?

What are the top three priorities for improving the tax and fiscal policy climate for this cluster?

- **Regulatory Environment**

What are the critical state and local regulatory issues facing this cluster?

How adequate is the current regulatory environment for this cluster?

What should be done to streamline the state and local regulatory process for this cluster?

What should be done to reform specific regulations for this cluster?

What are the top three priorities for improving the regulatory environment for this cluster?

- **Marketing and Export Support**

What are the critical marketing and export issues facing the cluster?

How adequate are current state marketing and export efforts for this cluster?

What should be done to help market the products and services of this cluster domestically?

What should be done to provide export assistance to firms in this cluster?

What are the top three priorities for increasing marketing and export support for this cluster?

- **Quality of Life and Environment**

What are the critical quality of life and environmental issues facing this cluster?

What should be done to promote quality of life for this cluster?

What should be done to address environmental issues affecting this cluster?

What are the top three priorities for enhancing quality of life and addressing environmental issues affecting this cluster?

- **Industry Cluster Networking**

What are the critical networking needs of this cluster?

How adequate are current state and local business networking systems for this cluster?

What should the state be doing to promote cluster networking to exploit markets, provide training and improve business practices?

What are the top three priorities for enhancing networking?

The findings and key policy issues from both the quantitative and qualitative analyses were compiled in briefing papers for each of the nine industry clusters (refer to Addendum II). The briefing papers provided the basis for dialogue during the regional forums.

Regional host organizations and local partners organized and sponsored regional forums. Key industry cluster leaders, selected by the host organization and local partners, told the Panel where they thought their industry could be in five years and what challenges they faced in reaching their business goals. The Panel "listened to the customer" to identify common themes and learn how the state's economic foundations could facilitate the growth and expansion of the clusters in particular, and the California economy overall.

The following provides a summary of key policy issues for nine industry clusters examined by the California Economic Strategy Panel in the first planning cycle. The nine industry clusters examined include environmental technologies and multimedia in the Bay Area; diversified manufacturing (food processing, medical instruments and electronics) in the Sacramento Valley Region; apparel and fashion design, information technologies and entertainment in the Southern California Region; timber/wood products in the Natural Resources-based Region; and, telecommunications and healthcare technologies in the San Diego Region.

**Key Policy Issues
for the
Environmental Technologies Industry Cluster

Bay Area Regional Forum**

Future Opportunities

Cluster representatives were asked, "In five years, what can the environmental technology cluster look like in the Bay Area?"

The key elements of the vision included the following:

- The region will be a leader in environmental technologies related to water reclamation, hazardous waste clean-up and environmentally conscious product design.
- The region will be able to stake its claim as the market leader for environmental technologies. It will be at the forefront of exporting environmental goods and services around the world, especially to Asia and Latin America.
- There will be opportunities to export our clean-up expertise to Eastern Europe, Asia and Mexico. We can learn from military base clean-up and leverage internationally.
- The regional industry will establish a valuable body of knowledge that will have varied applications in different industries and international markets.
- The regional cluster will no longer be driven by regulatory policies but by providing economically sensible technologies. Those firms which will survive in the long run will establish themselves in niche markets tied to industry needs, not regulation. Through the development of these niche markets the regional cluster will be the first to achieve sustainability.
- The environmental industry will grow by eliminating other industries' hidden costs due to inefficient uses of physical resources. By identifying projects which cut industry costs, environmental technologies will help dismantle the traditional polarization of concern with "the bottom line" and environmental objectives.
- Regulatory policy will move away from dictating procedures and move towards setting performance standards. Performance measure approaches will stimulate innovation in product design. Measurement technology will also benefit.
- The region could use the "Natural Step" methodology to train executives in how to make their operations sustainable.
- The industry will still be relatively small.

Key Needs

Cluster representatives were asked, "What three steps must be taken to achieve the vision?" The highest priority is moving toward performance-based regulation to reform the "maze" that characterizes California's complex permitting requirements. However, impediments posed by existing stakeholders (e.g., regulators and lawyers) benefiting from the current system are significant.

Economic Foundations	Stated Needs
Education/ Workforce	<ul style="list-style-type: none">• Few post-secondary programs have curricula to train engineers and technicians for the environmental technologies industry.• Development of a labor pool trained in areas such as clean-up and hazardous waste material handling is needed.
Regulatory	<ul style="list-style-type: none">• Simplify California's complex permitting requirements:<ol style="list-style-type: none">1. Set performance objectives that environmental technologies must meet which are tied to real environmental goals.2. Let companies and "the market" figure out the means to meet the goals.3. Use third-party verification to report how companies are doing. <p>Try this new approach initially with one set of permitting requirements. This method would provide incentives for companies to innovate and move beyond compliance.</p> <ul style="list-style-type: none">• Consistency and predictability in local, state and federal environmental regulations.• Consolidation of the numerous permitting requirements for environmental technology firms. Creation of a single point of contact to facilitate the approval process.• Flexibility in regulations which would allow industrial users more options in choosing the most appropriate technology for their specific activities.• Hold the line on federal roll-backs of environmental standards. Some of the regulations being considered for deletion are likely to be reconsidered for addition in the near future. California can provide leadership for maintaining consistency.• State of California should play a more pro-active role advocating performance-based regulations at the national level.

Capital	<ul style="list-style-type: none"> • Need access to capital which will allow firms to commercialize their technologies. • Need sources of capital for R&D to allow firms to move away from reliance on government funds.
Technology	<ul style="list-style-type: none"> • Resolve the inconsistencies in how national labs should best serve this area. Some firms are frustrated with having to compete with subsidized labs in obtaining federal R&D grants while others believe the labs can play an important leadership role in developing technologies. • Need to create incentives to encourage the processing of ethanol from green waste. • Need for a regulatory grace period to work out glitches inherent in new pollution technologies.
Tax/Fiscal	<ul style="list-style-type: none"> • There are significant cost disadvantages for environmental firms to conduct business in California compared to those states where competing firms have located. The state needs to provide very visible and concrete incentives for environmental technology firms to locate and expand here.
Industry Networking	<ul style="list-style-type: none"> • Establish a regional organization which can serve as an advocate and information provider in state policy decisions; an organization which can also nurture an identity for the industry.
Information Infrastructure	<ul style="list-style-type: none"> • Development of an economic information infrastructure should focus on the complex permitting issues inherent to the industry.
Quality of Life	<ul style="list-style-type: none"> • City and regional economic development planning which focuses on sustainability concepts creates a local market for environmental goods and services. • This region places a high value on the environment.
Marketing	<ul style="list-style-type: none"> • Establishing California as a leader in environmental standards raises the prestige and credibility of California-based environmental technology firms around the world. • Alliances across specific environmental industries reduce firms' dependence on specific regulation standards.
Physical Infrastructure	<ul style="list-style-type: none"> • State and regional consensus on military base re-use will allow California firms to get a jump on developing strategies, goods and services important to base clean-up. Establishing California firms as leaders in base clean-up

	has ramifications in national and international markets.
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Key Policy Issues for Environmental Technologies Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region and the state to address to grow the cluster:

- Environmental regulatory entities at all levels need to move towards performance-based objectives. Because the current regulatory structure often dictates technological means rather than performance ends, California industry and environmental technology firms are unable to capitalize on one of their greatest competitive advantages: innovation and entrepreneurship. Pilot the new approach within one area, perhaps uniform release reporting law.
- Establish an environmental industry organization which will take up the responsibility of voicing common concerns at the state and regional level.
- Create a state-level point of contact which would concentrate on environmental start-ups and new technologies to walk them through the maze of regulations and oversight.
- Allow for flexibility in implementing new environmental technologies (i.e., grace periods to work out problems in implementing a new technology).
- Environmental industry needs to provide environmental technologies that help cut costs for industry consumers rather than those technologies whose use is tied to specific regulations.
- The industry should bring the "Natural Step" methodology, pioneered successfully in Sweden, to Bay Area companies. This method saves money for companies by emphasizing pollution prevention (sustainability) over reactive compliance.
- The state could provide immediate concrete benefit by helping to finance the export of environmental technologies. Major competitors in Germany and Japan benefit significantly from having their governments behind them.

Participants in the Environmental Technologies Industry Cluster Focus Group Discussion

The following cluster representatives participated in the Bay Area Regional Forum on July 21, 1995 at the Casa de la Vista on Treasure Island.

Jennifer Hernandez
Partner
Beveridge and Diamond

John Olin
President and CEO
Sierra Instruments

Rich Morrison
Senior Vice President
Bank of America

Robert Peterson
Division President
Waste Management of Alameda County

Mike Lakin
Vice President
ICF Kaiser Engineers

Ron Advani
Regional Manager and Vice President
CH2MHill

Stuart Cram
Marketing Manager
Hewlett-Packard

Doreen Chin
President
Allied Technology Group

Ricardo Levy
CEO
Catalytica

Mike Biddle
President
MBA Polymers, Inc.

Key Policy Issues for the Multimedia Industry Cluster

Bay Area Regional Forum

Future Opportunities

Cluster representatives were asked, "In five years, what can the multimedia cluster look like in the Bay Area?"

The widely shared vision of the cluster is that the region can continue to be a hub of multimedia development and innovation. There is considerable opportunity to develop a natural association between the Bay Area and Southern California. Key elements of the vision include the following:

- The unique attributes of both Northern and Southern California in industries related to multimedia will put the West Coast at the forefront of a regionally-based information economy. As the East Coast and New York are to traditional print publishing, so the West Coast and the Bay Area will be for publishing of digital information.
- The industry will establish the language of the information age and economy. Digital integration of video, text, graphics and sound will create a new vocabulary which incorporates sounds, symbols and movement in unpredictable ways.
- The regional multimedia cluster will lead the way in a broader shift in the nature of work. In a high skill-based economy where imaginative, innovative and creative labor are highly valued, multimedia technology will be an incredible enabling tool. Activities such as telecommuting, distance learning and business conferencing will be the first areas where multimedia will impact the nature of work. The region has a tremendous opportunity as the rest of the world watches California's lead.
- The convergence of firms and industries all trying to ensure a presence in the future market for interactive information will be complete. The deal-making, partnerships and buy-out efforts of firms will subside as the markets for multimedia become more clear.
- The internal drivers of the industry will reach sustainability. Consumers will be much more sophisticated and the process of consumer maturation will accelerate. Markets beyond entertainment (i.e., education and health care) will begin to drive multimedia product development into new areas.
- The competitive advantage of the Bay Area will shape the cluster as a center of creation and innovation. There will be fewer low-skilled and manufacturing jobs.

- Beyond its role in reshaping the nature of work, multimedia applications in other aspects of life will first be experimented with and adopted here.

Key Needs

Cluster representatives were asked, "What three steps must be taken to achieve the vision?" The highest priorities were in nurturing and developing talent at all education levels including K-12, post-secondary and continuing education.

Economic Foundations	Stated Needs
Education/ Workforce	<ul style="list-style-type: none"> • Primary and secondary education needs to establish new mechanisms of funding and procuring information technology and providing instructor training. • Both education and training must allow for experimentation with delivery prototypes such as business/education partnerships to define curriculum and provide expert knowledge in actual application. • The capacity of post-secondary institutions to turn out trained individuals must be expanded. • Adaptive adult training programs must be expanded and integrated into the workplace. California needs to take advantage of its vast educational resources to forge a common commitment to life-long learning. • Need incentive mechanisms for industry to become more involved in funding technology training. • Need to recognize the tremendous value of cross-disciplinary knowledge and skills. Aesthetic understanding and creative imagination need to be integrated with technological expertise.
Capital	<ul style="list-style-type: none"> • Venture capital as a source of financing multimedia titles has yet to be fully tapped. The high cost and high risk of multimedia development necessitates varied sources of financing in addition to venture capital. • Financing is needed for multimedia to exploit international distribution opportunities and create products specifically targeted for international markets. • Broader access to financing for capital equipment investment is needed.
Technology	<ul style="list-style-type: none"> • By using multimedia technology, government can demonstrate multimedia's potential applications. Adoption of a technology which is dominated by California firms provides an initial market and lowers the risk to smaller

	<p>entities of adopting such new technologies.</p> <ul style="list-style-type: none"> • Allow providers of information technology to suggest guidelines and specifications when state agencies issue Requests for Proposals for technology upgrading.
Regulatory	<ul style="list-style-type: none"> • Regulation of telecommunications is the primary driver of investment in advanced information infrastructure. The California PUC needs to consider how deregulation of telecommunications will impact the creation of this infrastructure. The ultimate potential of multimedia is intertwined with its ability to be distributed remotely. Regulatory issues need to be resolved and clarified. • Competition in the provision of communications infrastructure is essential for expanding the distribution of multimedia.
Industry Networking	<ul style="list-style-type: none"> • Both Southern and Northern California's unique specialization within multimedia are tremendous assets where increased coordinated effort would have substantial benefits. • The nature of business networks within multimedia is very opaque. Development of these networks needs to continue through bottom-up implementation. • Physical centers for the production of work and the education of business and private consumers are needed. Opportunities for development of highly efficient network relationships would be greatly enhanced by physical centers to display wares and interact with users and developers.
Information Infrastructure	<ul style="list-style-type: none"> • Access to broad band ATM infrastructure must become cost effective. Ability to experiment with and establish remote communications networks is fundamental to multimedia product development. • Dedicated digital links to other regions important in multimedia (New York for publishing and Los Angeles for entertainment) would allow the Bay Area's cluster to access activities which are not as specialized here.
Quality of Life	<ul style="list-style-type: none"> • Cultural amenities, recreational outlets and environmental quality are traditionally balanced by the high cost of living. The shared aspects of quality of life, as a unique regional advantage, should be incorporated into efforts to develop industry networking and information infrastructure.
Marketing	<ul style="list-style-type: none"> • Furthering the legend of multimedia will open up market

	<p>opportunities.</p> <ul style="list-style-type: none"> • At present the consumer market is relatively immature in its demand for multimedia goods and services. Establishing the local regional market as the most demanding and sophisticated consumers adds to the need for cutting-edge firms to be located here. • State assistance with international marketing and distribution would fill a substantial void. Identifying technologically advanced markets, establishing distribution contacts, and assisting with international red tape are areas of need. • Need to build the capacity of multimedia industry associations at the regional level to deal with national and international inquiries. • Shared marketing projects could be tied into industry network efforts by linking users of multimedia technology to the physical centers located near convention centers.
Physical Infrastructure	<ul style="list-style-type: none"> • Shortage of low-cost production space. • Opportunities exist to use large public spaces such as closed military bases for production efforts or as industry incubators. • Region is inundated with unreasonable and inflexible zoning and permitting. Much regulation appears duplicative and highly prohibitive to entrepreneurial enterprise.

Key Policy Issues for the Multimedia Industry Cluster

Cluster representatives discussed key policy issues for industry cluster, the region, and the state to address to grow the cluster:

- Invest in the post-secondary education system to attract and retain creative talent in the region. Need training for both artists and technologists.
- The entertainment and multimedia industries should have input on deregulation of the telecommunications industry.
- Strongly support locally driven efforts to develop the multimedia industry, such as establishment of multimedia marketplaces.
- Revamp the State's technology procurement policies so that providers can propose technology solutions to improve state operations (i.e., Request for Proposals). Allow for experimentation and efficient distribution of lessons learned.
- Adopt multimedia in information-based government activities such as education, libraries and training. For example, the incorporation of multimedia technology into self-paced learning courses or

remedial education with assurance of credit transferability within California educational institutions.

- The state has unique opportunities to provide incentives for collaborative efforts in the areas of education, training and regulation. For example through legislative action, create tax incentives for industry to invest in training programs and K-12 schools.
- There are opportunities for the state to provide leadership by helping people understand the nature of work and business in an information-based economy.

Participants in the Multimedia Industry Cluster Focus Group Discussion

The following cluster representatives participated in the Bay Area Regional Forum on July 21, 1995 at the Casa de la Vista on Treasure Island.

Maurice Welsh
Director New Media Development
Pacific Bell

Solange Van der Moer
President of the Board
Multimedia Development Group

Don Means
Partner
Digital Village Associates

Prof. James Petrillo
Chair of the Department of Arts and
Multimedia
California State University Hayward

Zane Gresham
Partner
Morrison and Forester

Bruce Gritton
Director
Computer and Information Systems
Monterey Bay Aquarium Research
Institute

Tim Boyle
Vice Chairman
Northern California Manufacturing
Extension Center

Joe Sparks
Owner
Pop Rocket

**Key Policy Issues
for the
Diversified Manufacturing
(Food Processing, Medical Instruments and Electronics)
Industry Cluster**

Sacramento Valley Regional Forum

Future Opportunities

Cluster representatives were asked, "In five years, what can the recent growth in diversified manufacturing look like in the Sacramento Valley Region?"

The key elements of the vision included the following:

- Companies are bullish on their growth opportunities and the growth opportunities for the Sacramento Valley Region.
- Quality of life for employees is the main reason companies are here. Secondary reason is proximity to Silicon Valley.
- Area is attractive because "shop-floor folks" can afford to purchase homes.

Key Needs

Cluster representatives were asked, "What 3 steps must be taken to achieve the vision?"

Economic Foundations	Stated Needs
Education/Workforce	<ul style="list-style-type: none">• Fifty percent of people applying for apprentice jobs are not trainable.• Chico State University software engineers and UC Davis MBA's are good labor pools.• Maintain outstanding university system; prevent potential deterioration.• Diversity in university system is important to California competitiveness. Universities must actively attract people from diverse backgrounds.• California has innovative people; education should support this.• Good cooperation with local educational institutions; particularly Chico State University, UC Davis and Butte Community College.• Forty percent of one electronics company's workforce is temporary.

Capital	<ul style="list-style-type: none"> • Banks are reticent about financing facilities construction in rural areas.
Technology	
Regulatory	<ul style="list-style-type: none"> • Labor law is inflexible. Workforces that choose to go to 4-day week with longer than 8-hour shifts face barriers. • Despite workers' compensation reform, Appeals Board reinforces abuse. • County one-stop is easy to work with.
Tax/Fiscal	<ul style="list-style-type: none"> • 1993 state tax changes made a difference. • Local governments need reliable, adequate revenue sources. Need state fiscal reform. • California taxes are high relative to Far East competitors.
Industry Networking	<ul style="list-style-type: none"> • Opportunity for manufacturers to work together to attract shared suppliers to the region.
Information Infrastructure	
Quality of Life	<ul style="list-style-type: none"> • Improve air quality. • Improve increasing traffic congestion.
Marketing	
Transportation	

Key Policy Issues for the Diversified Manufacturing Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region, and the state to address to grow diversified manufacturing:

- The top priority is maintaining California's outstanding university system. The system must actively attract people from diverse backgrounds for California to be competitive.
- The second priority is reforming labor law to give companies and workers the flexibility to choose variable work schedules (4-day week with 10 -hour days, 3-day week with 12-hour days). This is important to mesh with changing lifestyles and need to maximize use of expensive capital equipment.
- A third area for reform is the workers' compensation Appeal's Board, which companies believe reinforces abuse of the system.
- A priority issue for Hewlett Packard, particularly for future expansion, is quality of life (i.e., air quality, traffic congestion and

schools) and the need to take a regional approach to improve the quality of life.

- Note that Hewlett Packard and Apple's operations in Sacramento Valley are expansions from their Silicon Valley base, rather than relocations.
- Cluster approach deployed by Arizona, where state, locals, and university work most aggressively on strategic clusters, increases the attractiveness of the state for high-tech.

Participants in the Diversified Manufacturing Focus Group Session

The following cluster representatives participated in the Sacramento Valley Regional Forum on December 14, 1995 at the Franklin Templeton Group of Funds in Rancho Cordova.

Gary Souza
Manager of Production
Apple Computer

George Balogh
General Manager/Vice President
Spectra-Physics Lasers

Don Whitaker
Principal/Owner
CERONIX

Mark Nelson
Government Affairs Manager
Hewlett-Packard Company

**Key Policy Issues
for the
Apparel and Fashion Design Industry Cluster

Southern California Regional Forum**

Future Opportunities

Cluster representatives were asked, "In 5 years, what can the apparel and fashion design cluster look like in Southern California?"

The key elements of the vision included the following:

- If we deal with serious issues facing us, we can be significantly stronger. If we do not, then price pressure will defacto make us weaker.
- The linkage of entertainment, music and clothing will lead to an explosion of new companies.
- Connectivity that links consumers, manufacturers and retailers will lead to quick turnaround. This is the key to the future.
- Growth will be in international markets (now exporting 25%) and marketing the "Created in California" brand.
- We must not compete on "cheaper," but on "better," "faster," more "fashion forward."
- The ability to sub-contract will remain a strength.
- We should not look back, but lead forward.
- We need the ability to get in and out of markets quickly.
- Opportunities for young entrepreneurs will continue increasing.

Key Needs

Cluster representatives were asked, "What three steps must be taken to achieve the vision?"

Economic Foundations	Stated Needs
Education/Workforce	<ul style="list-style-type: none">• No new job is low-skill anymore. Low formal education should not be equated with low skills.• Every job needs good language skills and some technical skills.• A new AA degree in apparel manufacturing should be created.• We need to make use of the diversity of the workforce.• Like auto industry, we need to restructure work, practice change management and move to self-governing teams.

	<ul style="list-style-type: none"> Companies are developing their own ways to train people; technology is useless without training.
Capital	<ul style="list-style-type: none"> Small companies are seriously undercapitalized, often due to lagging receivables. This affects ability to invest in technology and training.
Technology	<ul style="list-style-type: none"> Need technology to increase output, turnaround faster and decrease costs. With technology, small companies can diversify into more functions. There is experimentation with quick-turn systems (e.g. demand activated manufacturing architecture) Technology (i.e., communications, information and manufacturing) can help us move from "just-in-case" to "just-in-time" manufacturing.
Regulatory	<ul style="list-style-type: none"> The solution to more widescale industry compliance should be industry driven. This problem affects the image of the whole industry. The good owners and workers take the heat. There is a pool of owners who do not comply with regulation because they do not understand them or are not aware of them. They need non-threatening outreach and education. For the estimated 30% of the workforce that is working for illegal shops, the retailers should share responsibility because they exert pressure to get prices down.
Tax/Fiscal	<ul style="list-style-type: none"> The 1993 manufacturing equipment tax credit helped.
Industry Networking	<ul style="list-style-type: none"> Needs to be an amalgamation or coordination of industry efforts. Need one voice and mission. Need to encourage constructive alliances of manufacturers, contractors and retailers. Need to improve industry image through education. Small companies must participate in industry efforts. Need to educate universities, financial institutions, others about the value of serving small companies.
Information Infrastructure	
Quality of Life	

Int'l Marketing	<ul style="list-style-type: none"> • Need to educate small companies; get them to international shows. • Tremendous opportunity to market the "California Image" internationally. • Need a person in state overseas offices who knows foreign apparel markets. • Importers are part of the cluster too.
Transportation	

Key Policy Issues for the Apparel and Fashion Design Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region and the state to address to grow the cluster:

- The industry is just starting to develop an effective coalition. Southern California Edison was a catalyst for this. This is a critical need before problems can be solved and opportunities addressed.
- A California logo/label (hologram) could clearly differentiate California-made or created products in international markets. There may be a role for state government in helping coalesce or enforce this.
- A most valuable role for the government is enforcing U.S. copyrights and trademarks more strongly.
- Small companies need to be "herded" and educated about export opportunities. There is a tremendous amount they need to know and, even for interested companies, it is hard to figure out where to go for information. There is a dearth of accessible information about foreign markets; every retail channel is different. One idea is for the state to fund an apparel expert in each of their overseas offices; other governments do this routinely.
- Another role for the state and region is to attract from Europe, key companies where clusters have voids. The example mentioned was specialized textile mills.
- Inconsistency between state and federal law creates an unlevel playing field and makes it difficult for companies to understand and comply with regulations (particularly for foreign-born owners). There are two major inconsistencies: overtime pay and third-party responsibility.
- An example of progress is the development of one form to apply for local and state business licenses.

Participants in the Apparel and Fashion Design Industry Cluster Focus Group Discussion

The following cluster representatives participated in the Southern California Regional Forum on September 29, 1995 at the California State University Headquarters in Long Beach.

Patricia Cochran
Editor
Action Sports Retailer

Ken Wengrod
President
Rampage, Inc.

Robert Walter
President
Frank Walter Sportswear

Ilse Metchek
Executive Director
California Fashion Association

John Calvert
Regional Manager
Gerber Garment Technology

Doug Arbetman
CEO
Sirena Apparel Group

Scott Bailey
President
Split, Inc.

**Key Policy Issues
for the
Information Technologies Industry Cluster

Southern California Regional Forum**

Future Opportunities

Cluster representatives were asked, "In five years, what can the information technologies cluster look like in the Southern California Region?"

The key elements of the vision included the following:

- Southern California can be the global leader in international technologies (IT) application and development. As a country, IT can move from 7% to 52% of GDP.
- Convergence will continue. Multimedia will move toward on-line simulation, then immersive virtual reality.
- Particularly with multimedia, emphasis will shift from hardware/science to content.
- Smaller, specialized companies with more alliances will predominate.
- We can increase the role of technology pull (e.g., by health and transportation sectors) for IT.
- Defense industry will not go away; it will remain important.
- Growth will come from the integration of defense and commercial sectors.

Key Needs

Cluster representatives were asked, "What three steps must be taken to achieve the vision?"

Economic Foundations	Stated Needs
Education/Workforce	<ul style="list-style-type: none">• Do not erode university system; especially, engineering schools.• Need training on how to use information technology.• Poor K-12 hurts in attracting new employees.• In K-12, too much money is spent on administration; too little on education tools and teachers. Take out categorical programs.• With inadequate, cast-off hardware, can not use education software applications.• Kids need basic skills, plus the ability to use technology.

	<ul style="list-style-type: none"> • Need to increase awareness about the importance of this industry; job opportunities for those qualified.
Capital	<ul style="list-style-type: none"> • Cost is eternal problem.
Technology	<ul style="list-style-type: none"> • Do not want state programs. • Relationships developing well with universities.
Regulatory	
Tax/Fiscal	<ul style="list-style-type: none"> • Lower state personal income taxes. • Corporate tax rates are high; especially for first-year companies. • Increase the tax base.
Industry Networking	<ul style="list-style-type: none"> • Alliances are key. Need forums for CEOs to get exposure to each other. Small companies need this particularly.
Infrastructure (Physical and Information)	
Quality of Life	<ul style="list-style-type: none"> • Decrease the reality and perception of crime. • Focus on local businesses; other states are. • Promote purchasing from California companies.
Int'l Marketing	<ul style="list-style-type: none"> • State door-opening should continue. Needs to serve small business. Help them determine who is reputable. (50-80% of sales are international.)
Other	<ul style="list-style-type: none"> • Consensus and coalition-building is very hard in this state .

Key Policy Issues for the Information Technologies Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region and the state to address to grow the cluster:

- Maintaining the university system is a high priority. Companies recognize that they benefit from state and federal funding. University-industry partnerships are happening.

- Symbolism is extremely important in a large state. Perception drives investment.
- Companies do not want to be pursuing state or federal project funding directly.
- From an employment and technology development perspective, there is value to the defense model of large-scale integrated projects. The state could define "grand challenges." The state government could be a strategic consumer in health, education and transportation the way the federal government was for defense.
- Large market mass is critical for IT companies (lowers risk of user adoption). By fostering growth of other California industries, such as health, the state is indirectly fostering growth of IT.
- Participants would prefer lower taxes to targeted tax incentives or state technology programs.
- State has been helpful opening doors in the export area. Should keep it up! Small companies in particular need help understanding which foreign buyers, distributors, financiers, etc. are reputable.
- The Los Angeles Regional Technology Alliance (LARTA) has linked people. Alliances are about people, and cannot be developed through on-line tools.

Participants in the Information Technologies Industry Cluster Focus Group Discussion

The following cluster representatives participated in the Southern California Regional Forum on September 28, 1995 at Sony Pictures Studios in Culver City.

Robert Davidson
President
Davidson & Associates

Vicki Billings
Project Manager
Northrop Grumman Corporation

Matt Walton
CEO
Illusion, Inc.

Sam Covington
CEO
Looking Glass Software

Theo Mayer
Vice President
Metavision

James Schultz
Vice President
Whittaker

Rohit Shukla
Director
L.A. Regional Technology Alliance

Patricia Goff
Director, Multimedia
LA Regional Technology Alliance

Key Policy Issues for the Entertainment Industry Cluster

Southern California Regional Forum

Future Opportunities

Cluster representatives were asked, "What can Southern California's Entertainment Industry Cluster look like five years from now?"

The key elements of the vision included:

- Speed is a key theme; change will keep occurring at an increasing rate.
- There will be global growth in this industry and more regional film centers.
- The number, quality and diversity of the people in the industry will increase.
- The application of interactive design technologies will dramatically affect the creative and production processes.
- Multimedia could promote the movement of design functions away from the geographically concentrated core of the industry.
- The growth will continue and we will see movement of East Coast publishing groups to Southern California.
- The growth in sub-contracting will not slow.
- The digital segment of the industry needs "care and feeding."

Key Needs

Cluster representatives were asked, "What three steps must be taken to achieve the vision?"

Economic Foundations	Stated Needs
Education/Workforce	<ul style="list-style-type: none">• Reform criteria for accessing to state job training funds.• More entertainment academies.• Increased funding for training programs that have proven they work; expand them dramatically.• Mechanism to communicate ever-changing skill needs.• Need multiple skills: craft, technical, creative, collaborative.• Everyone must understand digital: directors, artists, technologists.• Need congruence (in technology) between the

	<p>education and work worlds.</p> <ul style="list-style-type: none"> • People and training institutions need help keeping track of trends in industry skill requirements.
Capital	<ul style="list-style-type: none"> • Use part of public pension funds to invest in new California companies.
Technology	
Regulatory	<ul style="list-style-type: none"> • Change the way regulations are drafted and enforced.
Tax/Fiscal	<ul style="list-style-type: none"> • Nurture positive tax structure.
Industry Networking	<ul style="list-style-type: none"> • Need to keep working. Industry togetherness is not as solid as it appears. • Industry must expand understanding of itself. • Production facilities and people need to associate. • Industry should provide the public with information about trends.
Infrastructure (Physical and Information)	<ul style="list-style-type: none"> • Replace "sneaker wear" with "infoware."
Quality of Life	<ul style="list-style-type: none"> • Decrease crime. • Work on image of region. • Decrease housing costs. • Eroding quality of life hurts recruiting efforts.
Int'l Marketing	
Governance	<ul style="list-style-type: none"> • Need to build new business-government governance mechanisms for an agile, fast-moving economy and society. • Try government as strategic facilitator and infrastructure builder. • Public sector must understand importance of speed..

Key Policy Issues for the Entertainment Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region and the state to address to grow the cluster:

- There are three levels of priorities: 1) the current labor shortage due to the need to train more people; 2) need to improve post-secondary curricula (undergraduate, graduate, community college); and, 3) the need to have more entertainment academies in K-12.
- If we do not proactively grow talent here, the industry will either import talent or not grow here. If we import talent, we are missing a significant opportunity to use job training for local youth and people to prevent further deterioration of our social fabric. There will be social costs of not funding training for disadvantaged youth.
- A key role for the state panel is to revise how companies access state job training funds (particularly Employment Training Panel). The current system is based on the factory model. It simply does not work for an industry where people work for small companies or for themselves, and where training needs change quickly.
- SkillsNet is an example of an emerging, industry driven training initiative between Northern and Southern California.
- Should encourage more Entertainment Academies by developing a training infrastructure for virtual teaching and learning. There is a tremendous shortage of qualified teachers; we need to leverage their abilities to impact more students.
- State should not let concerns about universal access slow down provision of information infrastructure services to high-demand industries and areas. (Acknowledged that there is a link between state regulation, investment and infrastructure.)
- Piracy is a continuing problem. California state government should be an advocate on this issue with the federal government.
- The California Film Commission is a good model for business-government interface. Government sits with industry, and the attitude is let's make it work.
- To improve governance of the state and region, business must have the discipline to talk with government. Government must have the discipline to not see itself as the solution to every problem.

Participants in the Entertainment Industry Cluster Focus Group Discussion

The following cluster representatives participated in the Southern California Regional Forum on September 28, 1995 at Sony Pictures Studios in Culver City.

Gini Barrett
Executive Director
Alliance of Motion Picture and Film
Producers

George Vradenburg
Partner
Latham and Watkins

Mark Stevens

Chris Farrell

CEO
7th Level

Barbara Klein
Senior Vice President
Sony Pictures

Nick DiMartino
Vice President
American Film Institute

Vice President
Paramount

Dave Masters
Director of Training
Warner Brothers Feature
Animation

Key Policy Issues for the Timber/Wood Products Industry Cluster

Natural Resources-Based Regional Forum

Future Opportunities

Cluster representatives were asked, "In five years, what can the timber/wood products cluster look like in Natural Resources-Based Region?"

The key elements of the vision included the following:

- California can become a major provider of end-use hardwood products. (Currently, softwoods used for construction drive the industry.) A symbiotic relationship can develop between primary and secondary manufacturing. A key support capability is development of a training academy for sustainable hardwoods.
- We can increase the portion of lands practicing sustainable harvesting, and use this as a marketable advantage. This type of harvesting would be the base from which to build environmentally friendly, value added products. This would help mitigate the current boom-bust cycle of the softwood industry.
- We can build on our private timber supply, if we do not regulate it in a manner that discourages responsible, cost-effective harvesting. Depending on federal policy, we will either have stagnation in softwoods or recovery and growth.
- We can increase yield on private hardwood lands, and use this base to increase acceptance of engineered wood products. We can export to East Asia. But wood products industry cannot grow if private lands are overmanaged.
- We can make more products of higher quality with less fiber. The future is producing environmentally safe products, using recycled materials and better utilizing all components of the tree.

Key Needs

Cluster representatives were asked, "What three steps must be taken to achieve the vision?"

Economic Foundations	Stated Needs
Education/Workforce	<ul style="list-style-type: none">• Technical training resources for hardwoods should be created, linked, funded and supported.• Educate the urban population on the nature of rural living and industry. Educate legislators about why the 'one policy fits all' approach does not work.

	<ul style="list-style-type: none"> • Do not waste the strength built up in the UC and CSU systems and talent in registered forestry. • Remove restrictions on local high school youth taking classes at community colleges.
Capital	
Technology	<ul style="list-style-type: none"> • Need access to shared kiln drying facility for hardwoods. • Need to develop skills in hardwood technologies in entrepreneurs. • Seek opportunities to 'import substitute' for California made wood products (e.g., oak barrels for wine). • Need new materials such as fiber composites and alternative fibers. • Increasing complexity in machinery leads to higher skill requirements and higher wages.
Regulatory	<ul style="list-style-type: none"> • Avoid onerous state regulation on private lands. • Encourage objective analysis of environmental issues. • Simplify the timber harvest plan requirements (now 12 entities review, is expensive and good for 10 years). • Resolve relationship between CEQA and the Forest Products Act to avoid continuous lawsuits. • Move to performance-based regulation, rather than state specifying best available technology. Current regulatory structure is barrier to adopting new pollution prevention technologies. • Adopt a best practices approach to regulation county by county.
Tax/Fiscal	<ul style="list-style-type: none"> • Policies generally are reasonable. • Develop incentives (or eliminate disincentives) for making environmentally friendly products.
Industry Networking	<ul style="list-style-type: none"> • Need a marketing cooperative association for hardwoods. • Collaborative, participatory management and leadership models need to be promoted at the local level.
Information Infrastructure	
Quality of Life	<ul style="list-style-type: none"> • Help people and policymakers understand that

	<p>economic diversity matters.</p> <ul style="list-style-type: none"> Educate local government on the usefulness of technology and the wood products industry.
Marketing	<ul style="list-style-type: none"> Launch a major marketing effort on hardwoods, increase awareness of what's available and overcome resistance to California species.
Transportation	<ul style="list-style-type: none"> Continue working on roads to access forests.

Key Policy Issues for the Timber/Wood Products Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region and the state to address to grow the cluster:

- The key need for moving into hardwoods, a relatively new field, is training. Need to make it a priority to see that training resources are developed faster.
- For a new industry like hardwoods, a key need is for seed funding to do research that would help define the real market opportunities, economic parameters and requirements. Information is needed before any businesses will start up (e.g., determine the economic parameters of collective hardwoods kiln drying.) Large companies will not fund this because there are no large hardwood companies in the industry (unlike softwoods). Universities are not in a position to do research that is unfunded.
- Northern California has 30% of California's land mass and 3% of its population. Electronic communications could be essential to communicating within the region and for the region to participate in legislative affairs from a distance.
- Should adopt a "best practices" approach to ensure regulations are implemented consistently in different counties and jurisdictions.
- The industry can help educate the broad-based public about its future and needs. The problem in an industry like timber/wood products is that the climate is not one of trust. So, certain industries need government and/or university to be more assertive in defending the industry and getting its message out.
- Regulatory requirements clearly have grown out of control, especially when compared to neighboring states. What prevents us from adopting the Oregon model? State leaders need to come out and learn about the industry. It needs to be viewed as important to the state's economy.
- There is often a difference between state law code vs. implementation via regulation.

- Need to continue to recognize that local capacity to do economic development is important. State has played a very important role in this.

Participants in the Timber/Wood Products Industry Cluster Focus Group Discussion

The following cluster representatives participated in the Natural Resources-Based Regional Forum on November 8, 1995 at the VFW Hall in Nevada City.

Terri Davies
Louisiana Pacific

John Keller
Keller Custom Wood

Bill McKillop
University of California, Davis

John Rogers
Institute for Sustainable Forestry

Tim Schallich
Roseburg Forest Products

Key Policy Issues for the Telecommunications Industry Cluster

San Diego Regional Forum

(Note: San Diego served as a pilot to test the two-track planning process)

Future Opportunities

Cluster representatives were asked, "In five years, what can the telecommunications cluster look like in the San Diego Region?"

The widely shared vision is for San Diego to emerge as a major global center of the wireless communications industry. This center of excellence in wireless communications can have the following characteristics:

- Includes communications and multimedia products.
- Is grounded in world class "homegrown" businesses.
- Attracts major international players.
- Companies will continue manufacturing in San Diego;
- Develops local supplier base, with companies sourcing both globally and locally.
- Leads in the development, as well as the use/application, of wireless technologies.
- Is linked to other California regions, and to the Tijuana region via "blurred" border.
- Is grounded in strong academic-business bridge ("collaboratory").

Key Needs

Cluster representatives were asked, "What three steps must be taken to achieve the vision?"

Economic Foundations	Stated Needs
Education/Workforce	<ul style="list-style-type: none">• Increase partnerships with the universities to facilitate spin-offs.• More money for higher education to produce more engineers, and develop real specialization in areas like network computing, software and materials science.• Help attract technical talent from outside the region.• Continue education for people on the shop floor.
Capital	<ul style="list-style-type: none">• Develop strong local financial institutions-- commercial and investment banking. Specific needs include capital equipment financing.

	<ul style="list-style-type: none"> • Need to create "non-venture capital" alternatives for patient capital, particularly for defense technology spin-offs.
Technology	<ul style="list-style-type: none"> • Increase funding for universities to develop new technologies. • Create a regional incubator or technology park to facilitate entrepreneurship.
Regulatory	<ul style="list-style-type: none"> • All levels of government should stop behaving like business is the enemy. Move beyond "one-stop." • Eliminate the fee-based nature of the regulatory system, which promotes adversarial relations. • Advocate for reciprocity in telecommunications markets internationally. Advocate for international standards.
Tax/Fiscal	<ul style="list-style-type: none"> • Provide incentives for companies to use new technologies. • Decrease the personal income tax. • Create friendlier business tax environment.
Supplier Development	<ul style="list-style-type: none"> • Encourage distributors to set up offices in San Diego to expedite delivery. Develop efficient suppliers and ancillary businesses in San Diego.
Industry Networking	<ul style="list-style-type: none"> • Companies, large and small, need to learn to cooperate as well as compete. • San Diego needs a venue to encourage networking among technology businesses, and banding together around issues.
Information Infrastructure	<ul style="list-style-type: none"> • Accelerate infrastructure development by advocating for deregulation. • Get more people in San Diego on the Internet.
Quality of Life	<ul style="list-style-type: none"> • Develop cultural amenities to make San Diego a more well-rounded community. • Take steps to deal with high cost of housing.
Marketing	<ul style="list-style-type: none"> • Develop a new high-tech image for San Diego that goes beyond tourism. • Market San Diego region and the state East and West. • Help small companies address problem of global

	distribution.
Transportation	<ul style="list-style-type: none"> • Address lack of public transportation. • Emerging congestion problems need solution, but do not impose on business. • Address problems of filling trucks going back East. • Improve the airport for international commerce.
Other	<ul style="list-style-type: none"> • Foster better environment for start-ups. • Define the cluster by where it is, not political boundaries.

Key Policy Issues for the Telecommunications Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region and the state to address to grow the cluster:

- Keeping the university system (UCSD and SDSU) strong is absolutely the key to growing the small telecommunications cluster into an international center for wireless communications . This is important both for workforce education and technology development.

The industry snatches up local engineering/software graduates, attracts people from outside, retrain displaced workers and still has growth-stifling workforce shortages. (The UCSD engineering program, for example, is capacity constrained.) Technology breakthroughs at the university, and resulting spin-offs, are the main reason why this cluster is in San Diego, and can continue to be a magnet.

The state must fund education in critical areas that are determined by panels like this one. The answer for the universities may not be more money, but restructuring to focus on core competencies and fewer, more specialized areas.

- Advanced manufacturing is entirely possible in, and appropriate for, San Diego and California . We lead on process technologies. But, again, the key to advanced manufacturing is high-value-added workers that can develop and use technology. The technology is the key to competitiveness in this industry, not basic manufacturing costs.
- Cluster leaders want government officials at all levels, educators and bankers to make an effort to get to know the telecommunications business . Business leaders acknowledge that

local officials are really making an effort to understand their business.

- These businesses perceive, through their interaction with government at all levels, that government thinks business is "the enemy"-- that California must protect its citizens from business . Business is surprised by this, because they believe employing people is a valuable and essential service that should be cherished by the community and state.
- What irks CEOs is the tremendous effort that they have to go through to do simple things, like get a traffic light installed or create a parking lot . While local officials are cutting through the layers that have built up overtime, business people want fundamental reform rather than management by exception. They perceive other states that are courting them as more willing to address fundamental road blocks.
- The industry wants a major bank to commit to San Diego and the telecommunications industry, and believes this is essential to their industry and a good business opportunity for the bank. Industry leaders currently court San Francisco, New York or Hong Kong, and would rather do business locally.
- The state's role is to remedy the "big problems" (e.g., tax structure issues) and then to help the regions help themselves. Education and transportation, for example, must be restructured region by region.
- From the perspective of these home-grown California companies, there is so much that is good about California--entrepreneurism, diversity, freedom--that tax and regulatory issues are at this stage of the cluster's development less important. Yet these are significant enough to some to cause them to reconsider expansion in San Diego.
- Internationally, regulations and standards are used to control markets. Can California use its clout to affect domestic deregulation and European reciprocity?

Participants in the Telecommunications Industry Cluster Focus Group Discussion

The following cluster representatives participated in the San Diego Regional Forum on April 28, 1995 at Qualcomm. Inc.

Stephen Burke
Vice President, Business Planning
Sony Electronics Inc.

Martha Dennis
Founder and Vice President, Engineering
Pacific Communications Sciences

John Eger
Professor of Communications
San Diego State University

Susan Fratamico
Group Manager, Strategic Plans and
Projects
San Diego Gas & Electric

Robert Kohler
Executive Vice President
TRW Avionics & Surveillance Group

Mark Sheddon
Deputy Director for Applied
Technology
San Diego Supercomputer Center

Derek R. May
President
QUALCOMM Personal Electronics

Alan Dicker
President
National Circuits

Daniel Romano
Vice President
Nokia Mobile Phones R&D Center

Harvey P. White
President & COO
QUALCOMM

James DeBello
Chairman and CEO
Solectek, Inc.

**Key Policy Issues
for the
Health Care Technologies Industry Cluster

San Diego Regional Forum**

Future Opportunities

Cluster representatives were asked, "What can San Diego's health care technologies cluster look like five years from now?"

The key elements of the vision include the following:

- Some companies will successfully shift from R&D to manufacturing. Others will keep a development focus in San Diego, and manufacture elsewhere. Still others will be "virtual" companies that develop subcontractor and partner relations to do many business functions.
- There was widespread agreement that the industry in San Diego will consolidate from 200 firms to 50 larger firms and 50 supplier firms. Mycogen or Amylin could be the next \$1 billion company. The industry will grow in employment 5% to 15% annually.
- The dramatic change in the industry nationwide presents opportunities for small companies.

Strategic alliances as a way to secure funding will proliferate.

- San Diego will lose many of its headquarters companies through mergers.
- Medical devices will get needed approvals and continue tradition of manufacturing in San Diego.

Key Needs

Participants were asked, "What three steps must be taken to achieve the vision?"

Economic Foundations	Stated Needs
Education/Workforce	<ul style="list-style-type: none">• Increase funding for the university to develop specific specialties in areas such as pharmacology.• Ensure that education system provides computer training at all levels, including K-12.
Capital	<ul style="list-style-type: none">• Invest a small portion of California pension funds in biotech start-ups, similar to the Wisconsin program.• Re-educate the investment community about the

	<p>potential for health care technologies in San Diego.</p> <ul style="list-style-type: none"> • Increase funding for the university to enhance the start-up process.
Technology	<ul style="list-style-type: none"> • Develop shared infrastructure for biopharmaceutical manufacturing (Phase II and III production.)
Regulatory	<ul style="list-style-type: none"> • Reform tort law to minimize frivolous class action suits. • Use California's clout to advocate for more expeditious approvals by U.S. FDA, and simplification of FDA process. • Eliminate the California FDA. • Find a solution for low-level radioactive waste. • Simplify local and state government regulations, expedite processes (e.g., investor fairness hearings).
Tax/Fiscal	<ul style="list-style-type: none"> • Decrease marginal income tax rates for individuals. • Provide incentives for development of land and facilities comparable to other states. • Affect major tax change that would be symbolic that California wants businesses to stay.
Supplier Development	<ul style="list-style-type: none"> • Develop business services sector. • Recognize that new facilities will mean new jobs.
Industry Networking	<ul style="list-style-type: none"> • BIOCOM can help develop alliances.
Information Infrastructure	<ul style="list-style-type: none"> • Accelerate infrastructure development by advocating for deregulation. • Get more people in San Diego on the Internet.
Quality of Life	<ul style="list-style-type: none"> • People like it (the environment) here.
Marketing	<ul style="list-style-type: none"> • Be on the offensive to get big firms to come, stay. • California must market the cluster internally; demonstrate that it has a strategy.
Physical Infrastructure	<ul style="list-style-type: none"> • Overturn trip reduction legislation. Deal with this through public policy and investment in alternatives, rather than burdening business.
Other	<ul style="list-style-type: none"> • Remove the disincentives to operating in

	<p>California. Really do not need incentives as much as to fix basic problems.</p> <ul style="list-style-type: none"> • Provide incentives for manufacturing here (similar to Puerto Rico.) • State needs to send a signal that California means business. • Implement the recommendations of ADEPT and the Council on California Competitiveness.
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Key Policy Issues for the Healthcare Technologies Industry Cluster

Cluster representatives discussed key policy issues for the industry cluster, the region and the state to address to grow the cluster:

- As the health care technologies cluster moves toward manufacturing, capital financing for development and expansion expenses are the most pressing issues facing the cluster. Cluster leaders uphold Wisconsin as a model program for using pension funds to invest--via a good analyst-- in start-ups that are desperate for capital but have a promising future. Help from the state in financing facilities through bonds would be very helpful--not a 'hand-out' but a way of leveraging the state's clout to help grow businesses.
- The university system has sown the seeds for this industry, but companies need new kinds of specialized expertise such as pharmacology and toxicology. Instead of strengthening the system, the state is reducing support, veering from the grand plan.
- Perceived instability in the water supply is a serious concern to this industry--a 'ticking time bomb.' Mayor Golding has done a good job of easing concerns in the short run.
- Companies are wooed strongly by other states offering major tax incentives and financing packages . While companies initially said they want special incentives, what they really want is wholesale removal of the regulatory and tax disincentives. The high marginal tax rate on personal income bothers them. The retail approach focusing on helping only certain companies, rather than dealing with major issues affecting all companies, troubles them.
- Some companies believe it does not pay to "grow up" in California, and that California can remain only an economy of boutique research firms. As companies grow, the state becomes incredibly intrusive in terms of the number of regulations companies have to comply with; it becomes hard to focus on running the business. Also, when firms get to a certain size and visibility, they become targets for lawyers, environmentalists, consumer groups and the law does not protect companies. If companies expand in California, California's high tax rate gets weighted relatively high in computing worldwide tax liability.

Proposition 13 creates artificial differences between existing companies and expanding companies.

- It is important to the companies to feel like California wants them to stay and has a strategy for their industry; companies need to get attention from California . Even very small companies get the personal attention of Governors in other states. While they recognize this may not be possible in a state as large as California, they want someone at a high level to demonstrate that California wants these companies to stay as much as the other states that are courting them. Relative to the slick promotional efforts of other states, California relates to them in a haphazard, impersonal way.
- California should develop an internal marketing campaign, developing marketing materials for each cluster . The state should develop a strategy and brochure, and market inside the state through personal contact. Word will spread quickly through word of mouth.
- California can use its clout to help health care technology companies advocate for a more expeditious FDA process . This would demonstrate that California is on the side of these companies, and supporting them in a tangible way.
- A symbolic, important first step would be to eliminate the California FDA. This would send a strong signal to the industry. The agency is little known, has unclear purpose, is duplicative of federal FDA, and causes significant annoyance and administrative burden to health care technology businesses.
- Companies have little awareness of what the state has been doing to encourage economic development in the last years. For example, senior executives did not seem aware of the tax reform legislation of 1993. Some companies were not aware that California eliminated the disincentives to be taxed on the waters edge method vs. worldwide method.
- Small companies need help understanding policy changes, and accessing people who can help them. Only by accident, for example, did one firm find out about EDD training funds and the community college Workplace Learning Resource Center. Companies need a single point of entry to turn to for help accessing all local and state resources.
- At all levels, regulations need to be simplified and streamlined, and become more time and cost-sensitive. But attitude, reflected in how businesses are treated, remains the #1 issue.
- Most people who founded companies want to stay in San Diego, and want to be provided arguments they can use to convince their boards and large-company partners about why they should stay. Most believe California is still the best place in the world to be an entrepreneur. The idea of starting a business is part of society, and failure is accepted as part of the learning process.
- San Diego is the ideal place to try to change business perceptions of California, because there is a "oneness" here. The community

has been coming together around biotech and biomed the last several years, and had accomplishments. Communication between education (particularly at the community college level) and business has improved greatly in the last few years; quality improvement is a big cultural change and firms need outside trainers to help.

- California should compare the budget of the California Trade and Commerce Agency to those of other California regulatory agencies, and then compare this ratio to those of other states! Budgets communicate priorities.

Participants in the Healthcare Technologies Industry Cluster Focus Group Discussion

The following cluster representatives participated in the San Diego Regional Forum on April 28, 1995 at Qualcomm, Inc.

John Conn
Vice President for Operation
IVAC Corporation

Lois Crandell
President/CEO
Genetronics

A. Stephen Dahms
Director
CSUPERB, CSU

Howard E. (Ted) Greene
Chairman/CEO
Amyline Pharmaceuticals, Inc.

William W. Otterson
Co-founder and Director
UCSD CONNECT

Ann Ryder Randolph
Managing Director
BIOCOM/San Diego

Rose Tomich-Litz
Director of Operations
Arkive Information Systems

Duane J. Roth
Chairman, President/CEO
Alliance Pharmaceutical Corp.

Kenneth John Widder
Chairman and CEO
Molecular Biosystems, Inc.

James McGraw
Managing Principal
McGraw-Baldwin Architects